MSDS Number: **P4556** * * * * * *Effective Date:* ***07/29/03*** * * * * * *Supercedes:* ***12/18/00***

MSDS Material Safety Data Sheet

From: Mallinckrodt Baker, Inc.
222 Red School Lane
Phillipsburg, NJ 08865

J.T.Baker ®

24 Hour Emergency Telephone: 908-859-2151
CHEMTREC: 1-800-424-9300

National Response in Canada
CANUTEC: 613-996-6666

Outside U.S. And Canada
Chemtrec: 703-527-3887

NOTE: CHEMTREC, CANUTEC and National Response Center emergency numbers to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure or accident involving chemicals.

All non-emergency questions should be directed to Customer Service (1-800-582-2537) for assistance.

Picric Acid, Wet

1. Product Identification

Synonyms: 2,4,6-Trinitrophenol; Picronitric Acid; Melinite
CAS No.: 88-89-1
Molecular Weight: 229.11
Chemical Formula: 2,4,6-(NO2)3C6H2OH
Product Codes: 0276

2. Composition/Information on Ingredients

Ingredient	CAS No	Percent	Hazardous
Picric Acid	88-89-1	60 - 70%	Yes
Water	7732-18-5	30 - 40%	No

3. Hazards Identification

Emergency Overview

DANGER! KEEP WET. EXPLOSIVE IF DRY. FLAMMABLE SOLID. CAUSES SEVERE EYE IRRITATION. HARMFUL IF SWALLOWED, INHALED OR ABSORBED THROUGH SKIN. CAUSES IRRITATION TO SKIN AND RESPIRATORY TRACT. MAY CAUSE ALLERGIC SKIN REACTION. AFFECTS

LIVER, KIDNEYS AND BLOOD.

J.T. Baker SAF-T-DATA(tm) Ratings (Provided here for your convenience)

Health Rating: 2 - Moderate
Flammability Rating: 2 - Moderate
Reactivity Rating: 2 - Moderate
Contact Rating: 2 - Moderate
Lab Protective Equip: GOGGLES; LAB COAT; VENT HOOD; PROPER GLOVES
Storage Color Code: Red (Flammable)

Potential Health Effects

Inhalation:
Causes irritation to the respiratory tract. Symptoms may include coughing, shortness of breath. Systemic poisoning can cause headache, dizziness, nausea, vomiting, abdominal pain and diarrhea. Heavy exposures can cause red blood cell destruction resulting in bloody urine, liver and kidney damage, convulsions, weakness, muscle pain, coma and death.
Ingestion:
Causes irritation to the gastrointestinal tract. Symptoms may include nausea, vomiting and diarrhea. Other symptoms may parallel those from inhalation. Ingestion of 1 to 2 grams has caused severe poisoning.
Skin Contact:
Causes irritation to skin. Symptoms include redness, itching, and pain. May cause allergic skin reactions. May be absorbed through the skin with possible systemic effects.
Eye Contact:
Fume is irritating to the eyes. Splashes can cause eye injury.
Chronic Exposure:
Prolonged or repeated exposures can cause liver, kidney and blood effects. Hair and skin may become yellow (not jaundice). Conjunctiva of the eye may also become yellow with corresponding yellow vision.
Aggravation of Pre-existing Conditions:
Persons with pre-existing skin, blood, liver and kidney disorders may be more susceptible to the effects of this substance.

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4. First Aid Measures

Inhalation:
Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
Ingestion:
If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. Get medical attention.
Skin Contact:
Immediately flush skin with plenty of water for at least 15 minutes while removing

contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse. Keep contaminated clothing wet after removing.
Eye Contact:
Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

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5. Fire Fighting Measures

Fire:
Flash point: 150C (302F) CC
Autoignition temperature: 300C (572F)
Flammable Solid!
Dangerous fire hazard when exposed to heat or flame.
Explosion:
Dangerous explosion hazard when dry. Becomes increasingly shock, heat and friction sensitive as it loses its moisture. Explosive decomposition is likely if material is involved in a fire. Sealed containers may rupture when heated. Sensitive to mechanical impact. Sensitive to static discharge.
Fire Extinguishing Media:
Fight fire from protected location or maximum possible distance. Use flooding quantities of water as spray. DO NOT use carbon dioxide or halogenated extinguishing agents.
Special Information:
In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

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6. Accidental Release Measures

Remove all sources of ignition. Ventilate area of leak or spill. Keep unnecessary and unprotected people away from area of spill. Wear appropriate personal protective equipment as specified in Section 8. Spills: Clean-up personnel should be aware of material's explosive capabilities. Wet down spill and absorb with sodium bicarbonate or sand-soda ash mixture (90:10 mix). Carefully scoop into glass containers (make sure material has at least 10% water). Use non-metallic tools and non-sparking equipment. Do not flush to sewer. Large spills may need the attention of explosives experts.

If handling picric acid contained in a jar, gently tilt bottle to see if crystals roll over each other. If they do, the acid is dry and capable of explosion--contact personnel trained in explosives. Dried crystals may also be present within threads of screw top containers and present a detonation hazard when opening container.

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7. Handling and Storage

Protect against physical damage. Store in a cool, dry well-ventilated location, away from any area where the fire hazard may be acute. Outside or detached storage is preferred. Separate from incompatibles. Containers should be bonded and grounded for transfers to avoid static sparks. Storage and use areas should be No Smoking areas. Use non-sparking type tools and equipment, including explosion proof ventilation.

Store in glass (not metal) containers and wet screw tops before sealing. Store in as small a quantity as possible and keep moist (at least 10% water--check periodically). Do not store on concrete floors (can form explosive calcium picrate). Enclose all processes and employ automatic-mechanical handling techniques and wet methods where possible.

If handling picric acid contained in a jar, gently tilt bottle to see if crystals roll over each other. If they do, the acid is dry and capable of explosion--contact personnel trained in explosives. Dried crystals may also be present within threads of screw top containers and present a detonation hazard when opening container.

Containers of this material are hazardous when empty since they retain product residues; observe all warnings for the product.

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8. Exposure Controls/Personal Protection

Airborne Exposure Limits:
OSHA Permissible Exposure Limit (PEL):
0.1 mg/m3 (TWA), skin
ACGIH Threshold Limit Value (TLV):
0.1 mg/m3 (TWA)
Ventilation System:
A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details. Use explosion-proof equipment.
Personal Respirators (NIOSH Approved):
If the exposure limit is exceeded and engineering controls are not feasible, a half facepiece particulate respirator (NIOSH type N95 or better filters) may be worn for up to ten times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest.. A full-face piece particulate respirator (NIOSH type N100 filters) may be worn up to 50 times the exposure limit, or the maximum use concentration specified by the appropriate regulatory agency, or respirator supplier, whichever is lowest. If oil particles (e.g. lubricants, cutting fluids, glycerine, etc.) are present, use a NIOSH type R or P filter. For emergencies or instances where the exposure levels are not known, use a full-facepiece positive-pressure, air-supplied respirator. WARNING: Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.
Skin Protection:
Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.
Eye Protection:
Use chemical safety goggles and/or a full face shield where splashing is possible.

Maintain eye wash fountain and quick-drench facilities in work area.
Other Control Measures:
Clothing contaminated with this material should be kept soaked with water and disposed of in the same manner as the material itself.

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9. Physical and Chemical Properties

Appearance:
Yellow crystalline solid.
Odor:
Odorless.
Solubility:
Moderate (1-10%)
Specific Gravity:
1.77
pH:
No information found.
% Volatiles by volume @ 21C (70F):
> 30
Boiling Point:
Explodes above 300C (572F).
Melting Point:
122C (252F)
Vapor Density (Air=1):
Not applicable.
Vapor Pressure (mm Hg):
Not applicable.
Evaporation Rate (BuAc=1):
No information found.

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10. Stability and Reactivity

Stability:
Dangerous explosion hazard when dry. Becomes increasingly shock, heat and friction sensitive as it loses its moisture. Explosive decomposition is likely if material is involved in a fire.
Hazardous Decomposition Products:
Explosive decomposition is likely if material is involved in a fire.
Hazardous Polymerization:
Will not occur.
Incompatibilities:
Metals including copper, lead, and zinc (corrodes the metal to form shock-sensitive metal salts); aluminum + water (ignites after a delay period), ammonia, concrete (forms explosive salts such as calcium picrate), plaster, salts, oxidizers, gelatin, alkaloids. Salts are more explosive-sensitive than picric acid itself.
Conditions to Avoid:
Heat, flame, ignition sources, shock, dryness, and incompatibles.

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11. Toxicological Information

Oral rat LD50: 200 mg/kg. Investigated as a mutagen.

--------\Cancer Lists\----------

Ingredient	---NTP Carcinogen--- Known	Anticipated	IARC Category
Picric Acid (88-89-1)	No	No	None
Water (7732-18-5)	No	No	None

12. Ecological Information

Environmental Fate:
When released into the soil, this material is not expected to biodegrade. When released into the soil, this material is not expected to evaporate significantly. When released into water, this material is not expected to evaporate significantly. This material has an experimentally-determined bioconcentration factor (BCF) of less than 100. This material is not expected to significantly bioaccumulate.
Environmental Toxicity:
This material is not expected to be toxic to aquatic life. The LC50/96-hour values for fish are over 100 mg/l.

13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be handled as hazardous waste and sent to a RCRA approved waste facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

14. Transport Information

Domestic (Land, D.O.T.)

Proper Shipping Name: TRINITROPHENOL, WETTED (WITH NOT LESS THAN 30 PERCENT WATER, BY MASS)
Hazard Class: 4.1
UN/NA: UN1344
Packing Group: I
Information reported for product/size: 500G

15. Regulatory Information

--------\Chemical Inventory Status - Part 1\---------------------------------
Ingredient TSCA EC Japan Australia
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Picric Acid (88-89-1) Yes Yes Yes Yes
Water (7732-18-5) Yes Yes Yes Yes

--------\Chemical Inventory Status - Part 2\---------------------------------
--Canada--
Ingredient Korea DSL NDSL Phil.
---------- ----- --- ---- -----
Picric Acid (88-89-1) Yes Yes No Yes
Water (7732-18-5) Yes Yes No Yes

--------\Federal, State & International Regulations - Part 1\----------------
-SARA 302- ------SARA 313------
Ingredient RQ TPQ List Chemical Catg.
---------- --- ----- ---- --------------
Picric Acid (88-89-1) No No Yes No
Water (7732-18-5) No No No No

--------\Federal, State & International Regulations - Part 2\----------------
-RCRA- -TSCA-
Ingredient CERCLA 261.33 8(d)
---------- ------ ------ ------
Picric Acid (88-89-1) No No No
Water (7732-18-5) No No No

Chemical Weapons Convention: No TSCA 12(b): No CDTA: No
SARA 311/312: Acute: Yes Chronic: Yes Fire: Yes Pressure: No
Reactivity: Yes (Mixture / Solid)

Australian Hazchem Code: 2WE
Poison Schedule: S6
WHMIS:
This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

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16. Other Information

NFPA Ratings: Health: **3** Flammability: **4** Reactivity: **4**
Label Hazard Warning:
DANGER! KEEP WET. EXPLOSIVE IF DRY. FLAMMABLE SOLID. CAUSES SEVERE EYE IRRITATION. HARMFUL IF SWALLOWED, INHALED OR ABSORBED THROUGH SKIN. CAUSES IRRITATION TO SKIN AND RESPIRATORY TRACT. MAY CAUSE ALLERGIC SKIN REACTION. AFFECTS LIVER, KIDNEYS AND BLOOD.
Label Precautions:
Keep wet!
Do not contact with metals.
Keep away from heat, sparks and flame.
Store in a tightly closed container.
Avoid contact with eyes, skin and clothing.
Wash thoroughly after handling.
Avoid breathing mist.

Use only with adequate ventilation.

Label First Aid:

If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Keep contaminated clothing wet after removing. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. In all cases, get medical attention.

Product Use:

Laboratory Reagent.

Revision Information:

MSDS Section(s) changed since last revision of document include: 8.

Disclaimer:

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